

## **Computer Organization and Architecture (CSE 2009)**

### **Sample Questions**

1. Distinguish between memory mapped and I/O mapped I/O with relevant illustration
2. Discuss the role of a link register in a CALL instructions? Explain subroutine nesting.
3. Discuss the working principle of a processor stack. Explain the implementation of PUSH and POP Operations.
4. Define a Full adder with its truth table.
5. In Ripple Carry Adder, each full adder has to wait for its carry-in from its previous stage full adder. Thus, nth full adder has to wait until all (n-1) full adders have completed their operations. This causes a delay and makes ripple carry adder extremely slow. The situation becomes worst when the value of n becomes very large. How can we overcome this disadvantage? Explain.
6. Discuss the working principle (basic operations) of DMA.
7. Assume that a processor does not have any stack pointer register, can it have a subroutine call instruction? Justify your answer
8. The data transfer between memory and I/O devices using programmed I/O is faster than interrupt-driven I/O. Is the statement true? Justify your answer
9. How does the I/O device alert the processor when it becomes ready to perform any operation? Explain the mechanism behind this.
10. Assume 32 bit word length memory, SP is initially loaded with address value 1500. After performing a push operation what will be the location of the item pushed onto the stack? Also write the instruction to implement a PUSH operation.